Combat Crew

strategic air command

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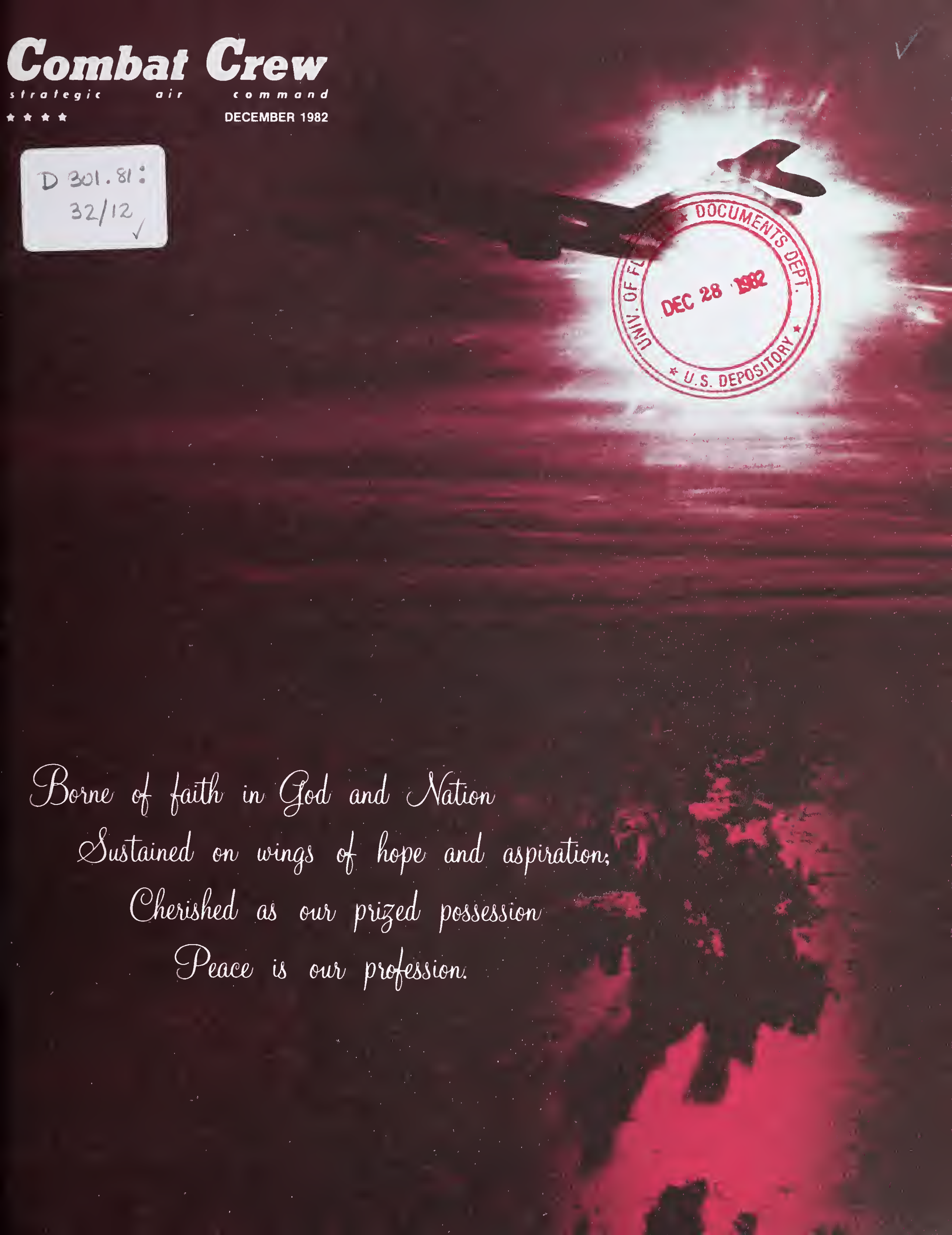

Borne of faith in God and Nation
Sustained on wings of hope and aspiration;
Cherished as our prized possession
Peace is our profession.

WHO PUTS THE "I" IN INTEGRITY

MUCH *has been written and said about the problems of using and maintaining aging weapon systems with fewer and less experienced people. This phenomenon is a fact of Air Force life today. Unfortunately, it has provided some an excuse for cutting corners to accomplish the mission.*

Frequently, we hear supervisors say, **"Don't do as I do, do as I say."** Whether in jest or not, this phrase has been associated with directions that lead directly or indirectly to cutting corners to compensate for the pressures of completing the mission. Certainly it has no place in the vocabulary of the professionals who use and maintain our weapon systems. If anything, the phrase *should be,* **"Do as I do and as I say and by the book."** There are many pressures to cut corners, but the single most important factor in resisting these pressures is **integrity.**

Webster defines integrity as an adherence to a code or other values. This directly relates to the moral soundness, *professionalism and honesty* each of us should have. All of us like to think that we exhibit these desirable qualities and like to see ourselves as honest and professional people — people that are **accountable.**

But, can we truly say that our integrity is strong? How many times have we bowed to *expediency* and taken questionable shortcuts to get the job done? Or, how many times as supervisors have we told our people, *"I don't care how you get the job done, just do it?"* The job may get done that way but in the process, integrity is *eroded* and the worst possible example is set.

Integrity affects our whole lives. It is inescapable. Its presence or absence can be seen by others and used by them to judge each of us as a person. Since integrity is always with us, it becomes a *very* important part of our lives. Think about it the next time you fly or drive your car. Think about the integrity of people who manufactured that equipment and those who maintained it.

We put our lives on the line every day based on the integrity of others. We take their word that the job they did in making, transporting, supplying and repairing a piece of equipment was done correctly. They, in turn, take the word of operators that the equipment was operated properly.

We in the Air Force must continue to emphasize and develop integrity. We have neither the manpower nor the money to perform 100 percent checks on everything we do. *The standards we set should be examples for others to follow. The word of each member of the Air Force team, both military and civilian, must be able to stand alone.*

D 301.81: 32/12

Lt Gen John J. Murphy
Commander, 15th Air Force

This concept can work. However, it requires a commitment from everybody. There may be times when we must give and receive answers we don't like. We may not like the answers, but they will be honest answers. For example, is it better to follow the book and miss an on-time takeoff than make the takeoff time by using *unauthorized shortcuts and compromising safety?* What good was the on-time takeoff if the plane crashes because somebody cut corners and didn't do the job correctly?

In some professions, there are certain jobs that are more important than others and the degree of integrity is perceived based on the importance of these key jobs. *However, every job in the Air Force is important.* Each of us in the Strategic Air Command contributes to the nuclear deterrent capability of the United States of America. We cannot afford to compromise that deterrence due to the lack of integrity. **Remember, only you can put the "I" in integrity.**
★★★

Combat Crew

Magazine of the Strategic Air Command 32nd Year of Publication

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IN THIS ISSUE

Super SAR 82 4
Down Under Operations 8
Castle: The Second Time Around 10
TA Anomalies 12
Big I 14
Cutting Edge 18
Missile Safety 20

Our thanks to SMSgt Bill Kirkpatrick (Ret) for his expertise in putting this issue together

ON OUR COVER

Words of faith from the Office of the Command Chaplain symbolize the hope and aspirations of all those who serve in SAC. (U.S.A.F. photo by TSgt Robert L. Watson.)

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DEPARTMENT OF THE AIR FORCE

SEARCH AND RESCUE

SUPER SAR '82

Ken Maassen
Assoc. Ed.

Lt Col Bruce Mundie, Nebraska liaison project officer to the CAP, coordinated the seven-state Super SAR '82.

THE deputy sheriff was perplexed. What was a huge paper "Z" doing laying smack dab in the middle of a hayfield?

"Probably a marker for a drug drop," he thought. Moving into the field he quickly gathered up the "Z" and proceeded to place it in the trunk of his patrol car. "This will fix them."

A few hours later, a Cessna 150 appeared over the hayfield. This time it's the aircrew who is perplexed. According to their calculations, a big paper "Z" should be visible somewhere on the ground below. But where is it? Soon the aircraft flies away.

Although it might appear that the deputy had spoiled an air drop, this definitely wasn't the case. In fact, the well-meaning lawman had upset some carefully laid plans of the officials conducting Super SAR 82, a two-day simulated **SEARCH AND RESCUE** competition sponsored by the Civil Air Patrol's North Central Region.

The missing target was probably the biggest problem encountered during the exercise, according to Lt Col Bruce Mundie, Nebraska Liaison Project Officer to CAP, and a prime mover behind Super SAR 82. It turned out that the sheriff's office had been contacted previously but word hadn't filtered down to the deputy.

Well, little matter. All in all, the exercise was an unqualified success. More than 200 CAP members from seven states: Missouri, Nebraska, Kansas, Minnesota, Iowa, and the Dakotas, traveled to the Iowa Air National Guard Base at Sioux City, Iowa Municipal Airport, over the Labor Day weekend to participate in the event as contestants, staff and judges.

Air and ground teams had qualified for Super SAR 82 by their performance in individual state wing competitions. Each team was notified of an overdue aircraft or of a report from a citizen that a plane was sighted in the air having trouble and then disappearing.

Gathering clues through interviews, the teams pieced together all pertinent information, decided on a probable search area and started their ground and air missions.

Other tasks to be accomplished included grid and route searches, which involved the identification of multiple targets in a specified grid or along a course line. One problem involved a search for an ELT, a survival device set in the tail section of a light airplane that gives off a loud warbling sound on aviation distress frequencies when activated upon impact. At Super SAR 82, this proved to be particularly thorny to both air and ground teams as the ELT was devilishly concealed in a box canyon.

The first aid problem was really three tasks in one. First, the ground team had to navigate through unfamiliar territory to locate a simulated crash site. Second, they must deploy and find one or more survivors of the crash, who could, in their ''dazed'' state, have wandered in any direction from the crash. And last, they must diagnose and apply first aid for any apparent injuries, then transport the ''victim'' back to their vehicle for evacuation.

Safety checks were a vital part of the exercise. Teams complied with CAP regulations, FARs or traffic laws. Violations were grounds for disqualification. A team from one state planning to use a vehicle not equipped with seat belts for all occupants was forbidden to depart until a suitable vehicle was found.

By the time the dust had settled on Sunday night, Nebraska's CAP wing was judged as having the best air crew. This wing helped propel the Cornhuskers to the most coveted title of all, Best Overall CAP Wing. Iowa was just a step behind as they captured both the best ground team and mission coordinator team awards. Although the regional SAR is expected to rotate yearly among the region's states, most CAP wings are eagerly anticipating the first-ever national SAR, scheduled for 1984.

This all sounds like great fun, you may say. But isn't CAP mostly for teenagers? How does it relate to me?

Well, CAP and the Air Force have been working hand in hand for a long time. In fact, CAP, a benevolent, nonprofit organization established by Congress, is older than the Air Force. Formed just prior to WWII, CAP got its first taste of action at the beginning of that conflict.

Piecing together all pertinent information, CAP teams decided on probable search areas and started their ground and air missions.

SUPER SAR 82 . . .

The hurriedly-formed CAP Coastal Patrol was pressed into duty to combat the menace of German submarines that were operating freely along the eastern and southeastern coast lines of the United States, sinking cargo ships and tankers at a rate of two or three a day. Neither the Navy nor the Army Air Corps at the time had the resources to meet the threat adequately.

In an 18-month period before the military services were strong enough to take over the mission, CAP Coastal Patrol reported 173 submarines sighted, dropped 83 bombs and depth charges on 57 of them (sinking two) and flew nearly 87,000 missions totaling 244,600 flying hours.

The patrol also requested help for nearly 100 distressed ships and was responsible for saving the lives of 363 survivors of sub attacks. During the period, CAP lost 26 pilots or observers and 90 aircraft.

Today, CAP provides emergency services through an organization divided into eight regions encompassing 52 wings, one in each state in addition to the National Capital wing and another in Puerto Rico. Wings are further divided into groups, squadrons, etc.

In some cases, wings receive state appropriated funds to help defray costs. But others subsist without appropriations, relying almost totally on yearly dues paid by each wing member. During an exercise, Air Force pays only for fuel and lubricants used.

At present, CAP, a USAF auxiliary, is flying nearly 75 percent of all SAR missions over the inland portion of the United States. That translates to over 8,500 sorties, more than 17,000 hours flown and most important, 77 lives saved in 1981.

Search missions normally begin with a request for help from the FAA, law enforcement agencies or individuals to the Air Force Rescue Coordination Center at Scott AFB, headquarters of the Aerospace Rescue and Recovery Service. After evaluation, it is relayed directly to the CAP wings responsible for the areas to be searched. There are over 8,800 airplanes and 60,000 people available to CAP. With over 25,000 licensed stations, the CAP has the largest nongovernment communications network in the country.

CAP — its members wear Air Force uniforms with CAP insignia — is governed by a National Board. Although a civilian organization, the CAP does have a position on the board for the Executive Director, an Air Force officer of star rank. CAP national headquarters is located at Maxwell AFB.

By definition, CAP is committed to meeting emergencies, encouraging the public to learn more about air and space matters, and motivating young men and women to take leadership and service roles through education and teaching.

The Air Force, as authorized by public law, helps CAP by assigning active duty members on a full-time basis as instructors and liaison personnel and by providing excess DOD property. Additionally, Air Force arranges for the loan of DOD real estate and facilities to CAP for office space. The CAP also conducts summer encampments on Air Force, other military and government installations, and uses office space on bases for meeting and training sessions.

CAP works to assure the safety of Air Force and Reserve Force aircrew members by helping survey military low-level flight training route for hazards and environmental factors. The FAA has established military training routes to allow military pilots to practice low-level bomb run and reconnaissance missions. The routes enable a realistic yet safe mission with the least possible environmental impact.

To assure the continued safety of these routes the FAA requires aerial visual surveys for obstructions and other hazards. The surveys must be flown below 1,000 feet, once down the center and once along each side. SAC has in the past used more expensive commercial light aircraft and pilots to carry SAC personnel to perform these surveys. Now, where possible, SAC units have turned to CAP to fly the routes. During 1981, CAP assisted in the survey of 24 routes.

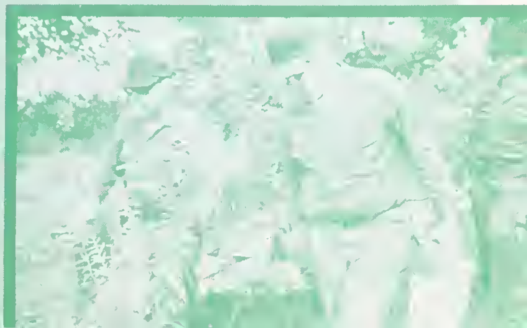
A new and, at the moment, limited CAP activity, the delivery of aircraft parts and other required items, is benefitting both CAP and the Air Force. Many Air Force bases serve as central supply points or have satellite operations at nearby bases. When there is an immediate need for parts, CAP can transport the required items, allowing combat aircraft to maintain operational status without the delays of scheduled transportation and without wasting valuable aircrew training time.

Teenagers can join CAP cadet programs when they complete the sixth grade or are between the ages of 13 and 18. Senior members must be at least 18. Rising through the ranks for cadets is no easy accomplishment. They undergo training in military courtesy, formations, and discipline; take aerospace education and leadership courses, and specialize in areas such as communications-electronics, operations and logistics. In all, it takes four to five years for a cadet to pass through the ranks.

What does the future hold for CAP? To many, it appears bright, since the military is getting farther and farther away from searching for civilian aircraft. More of this mission is foreseen going to CAP.

It's also cost-effective for the Air Force. The cost per hour of flying a Cessna 150 is miniscule compared to the rate for a HC-130. Smaller aircraft, because of their ability to fly low and slow, are more effective on an aerial search.

From WWII to the present, CAP's mission has always been flexible. It's done what has needed to be done. Whatever the mission, personal involvement is the thread that seems to wind tightly through the CAP, now as in the past.



DOWN UNDER OPERATIONS

2Lt. Jimmy B. Ellis
906th AREFS, Minot AFB

Glad Customer is the unclassified nickname for SAC B-52 reconnaissance operations staged from Darwin Royal Australian AFB. Air refueling support is provided by the Pacific Tanker Task Force (PTTF) at Andersen AFB. PTTF tanker crews TDY from various CONUS bases may have the opportunity to deploy to Darwin RAAFB for Glad Customer operations. Dr Hans Mark, past secretary of defense, once referred to this operation as "the most important mission flown by SAC today."

My crew from the 906th AREFS, Minot, was one of the PTTF crews that provided air refueling support for the B-52s in Glad Customer 82-3H. We were the first crew to fly to Darwin for this operation, carrying people and cargo for maintenance support for the B-52s, and the last crew to leave Darwin for the trip back to Guam. Three other tanker crews and three bomber crews participated.

We all looked forward to our trip across the equator. As the crew navigator I was anxious to investigate the coriolis effects of the Southern Hemisphere, to confirm that water drained counterclockwise. The copilot was the only crewmember who had been to Australia, so he knew some of the Australian dialect. Having a language translator helped later in the operation.

We departed Andersen on June 19th to fly south to the world's largest island. On the flight down we rendezvoused with three Royal Australian F-111s at a predetermined point south of Papua, New Guinea, for an opportunity A/R. We established radio contact with the Australian fighters just prior to the rendezvous point and they asked us to meet with them at

another point further south along our course. At the new rendezvous, the Australian F-111s rolled in behind us and the boom operator commented over the interphone that it was one of the tightest, neatest formations he had ever seen.

The Australians called minimum fuel. We couldn't give them any fuel since that would involve military sales to a foreign nation, so they requested we stay together to Darwin and that they be allowed to land first. After the F-111s landed, we continued south another 50 or 60 miles before reversing course to land. Although the Australians have several approaches for Darwin, we used the only one published in the DOD letdown plates, an ILS requiring circling.

We landed on the 19th of June and had time to enjoy ourselves before the mission began. On the 22d we attended pre-mission briefings and on the 23d, we were ready to roll. We preflighted, started engines, and taxied. A call from tower told us we were "cleared line up;" we all turned to our crew translator, the copilot, who explained, "That's Australian for taxi into position and hold." The mission was fairly simple for the tankers except that the rendezvous point was two minutes after level off. This didn't leave much time to adjust airspeed for timing. As the lead navigator, I passed updated ETAs to the bombers during the climb, and unlike the typical air refuelings, the bombers had to adjust their speed to arrive at the rendezvous point on our ETA. The rendezvous was accomplished successfully, four tankers with three bombers. As one bomber was an air spare, there was a brief discussion among the bombers to determine which two were in the best condition to continue the mission and which would return to Darwin. Only the two that continued took fuel. The offload was 85,000 pounds from each tanker for a total of 170,000 pounds for each bomber. Following the air refueling, the tankers flew back to Darwin and the bombers had a recon mission of some 31 hours.

Next day, the tankers and the spare bomber departed Darwin for the trip back to Guam. Our deployment to Australia was enjoyable yet challenging. Glad Customer 82-3H was an important mission that personified initiative and professionalism.

CASTLE: THE SECOND TIME AROUND . . .

Capt Jerry D. Horne
38th SRS, Offutt AFB

Well, the day finally arrived, after all your hard work, and probably not so patient waiting. You've been given the official nod to attend upgrade training at Castle to become an aircraft commander.

With a blossoming confidence in your ability, or at least a determination not to make the same mistakes again, you gather up your flight gear and records and head on out to California. You already have a pretty good idea of what to expect. After all, this is your second visit. The billeting office is in the same place, as is the academic building and the squadron down at the flight line. The local area hasn't changed much and San Francisco is still only a few hours away.

The big difference for you is that this will be your first full-time exposure to the training environment in several years. Oh, you've had trainers and other continuation training, but those were always sandwiched in between alert tours or TDY's. Upgrade training will go on five days a week for almost two full months. You'll have to adjust your thinking patterns to keep up with the training schedule.

Upgrade training at Castle, for the most part, is easier than initial qualification. You'll have a new copilot just out of UPT eager to learn about his new aircraft, but probably looking rather green in your eyes.

You can fully understand his feelings, you were in his shoes not too long ago. You remember all too well your first journey to Castle and your introduction to SAC. You recall the myriad of systems to learn, the open and closed book tests and how come those wings keep wagging on final? As you watch your new copilot's first few landings, you have to wonder if your first few were like that, although you may be just as sure that yours were a lot worse.

One point that does strike home very quickly, at least by the first flight, is that you are in charge now. If the clearance gets messed up or if the rendezvous doesn't go right, you're the one that everyone expects to straighten it out. This is the real reason they send you out to Castle, not just to learn how to fly the airplane. In terms of flying, transitioning from the right to the left seat takes just a few rides to get the feel of it. To command an aircrew takes a lot more.

You are going to be asked to draw on the knowledge of flying and procedural experience you've been building up over the past few years. You will be getting some help of course. The IP won't hesitate to countermand a bad decision or offer guidance when it is needed, but you'll be expected to make virtually all the decisions from the very beginning. Your job at upgrade training is to gather together the tools necessary to return to your home base as an effective aircraft commander.

There is an insidious danger that can sometimes present itself after completion of upgrade training. Castle is a big confidence builder, it's supposed to be. You'll be getting more

training than you've had in a long time. Your flying is sterling compared to your new copilot, and there develops a camaraderie between yourself and the IP since you've both "been there" before. These facts, coupled with your being the aircraft commander, can provide quite a boost to the old ego and therein lies the danger. An aircraft commander needs confidence but not to the extent of believing too much in himself. This is the attitude which has been described as "bullet proof" or being able to handle any situation. A new aircraft commander, while certainly a better pilot than the former copilot he was a few months earlier, is probably only somewhat better, not in the category of "bullet proof." The point is that this is precisely the attitude you must guard against during your stay at Castle and your subsequent return to your unit. Keep everything in perspective. You've still got a lot to learn after you get back.

Overall, Castle is a chance to try out new techniques, polish old ones and maybe become the pilot you've always wanted to be. It is an opportunity to learn and an opportunity to teach, for you will be expected to share some of your knowledge of the aircraft with that new copilot.

In addition with the local area, the atmosphere and experience of Castle can be one of the most rewarding and pleasant parts of your Air Force career.

TA ANOMALIES

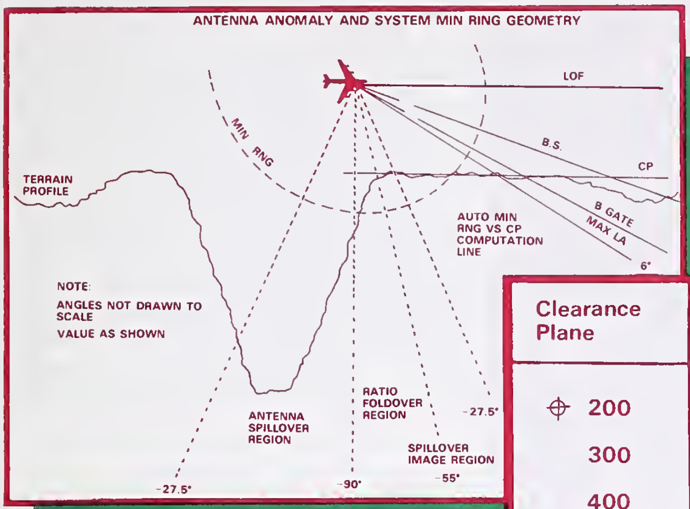
Capt William Ohlmeyer
4017th CCTS

"SOMEBODY PLEASE TURN OFF THE BUBBLE MACHINE!!
KIRKPATRICK

Ever had TA antenna spillover? How about ratio foldover? Care? Did you know that during low level, anomalous returns can be fed into your TA set if you are too high above the ground? We all know that at high altitude, during the inflight TA functional check, the TA sets can have anomalous returns. Would it be a news flash if I told you an anomalous return on your TA calibration for IR 300 was normal? Would you expect anomalies when your radar altimeter reads 2400'?

FACT: The minimum range limit (the outer limit of the short range blind zone) varies with the clearance plane setting and is fixed at 5000′ for "Profile CAL." This varying minimum range is normally related to our near range blind zone in front of the aircraft. Actually it forms a "bubble" around the bottom of the aircraft in which all returns coming into the feed horns are zeroed out. If this "bubble"does not touch the ground then you can get anomalous returns fed into your set. The reason this anomalous signal comes in is the reflector dish which faces forward is not big enough to block erroneous signals to the feed horns which face aft. Below the aircraft at −27.5° from the verticle, signals can come into the feed horns. This is called antenna spillover (Fig 1).

Look at Fig 2. With a clearance plane setting of 300′ the minimum range is set at 2485″. Using Fig 3, find the closest distance in the −27° column that is larger than 2485. You will find 2643 and when you read to the left you get the number 12. This tells you that at anytime your radar altimeter reads 1200′ you will probably get an anomalous return. When would you ever be 1200′ above the terrain? How about an early climb in Profile 10 to get over a high peak. When the "bubble" no longer touches the ground (1200 AGL), you are going to get anomalies on your scope. You can eliminate these in two ways:



Clearance Plane	Min Rng Feet		
	Min	Nom	Max
⌖ 200	1649	1919	2091
300	2485	2755	2927
400	3420	3690	3862
* 500	4256	4526	4698
600	5093	5363	5535
700	5978	6248	6420
* 800	6864	7134	7306
900	7750	8020	8192
1000	8586	8856	9028

Auto Min Rng As A Function Of Clearance Plane

A/C Alt Above Terrain (X100)	Ant Anomaly Range	
	-27°	-55°
4	881	488
5	1101	610
6	1321	732
7	1542	855
8	1762	977
9	1982	1099
10	2203	1221
11	2423	1343
12	2643	1465
13	2863	1587
14	3084	1709
15	3304	1831
16	3524	1953
17	3745	2075
18	3965	2197
19	4185	2319
20	4405	2442
21	4626	2564
22	4846	2686
23	5066	2801
24	5286	2930
25	5507	3052
26	5727	3174
27	5947	3296
28	6168	3418
29	6388	3540
30	6608	3662

FIG 3

Antenna Anomaly Data

● Lower your clearance plane. This will extend the "bubble" below you. This procedure is not recommended as the terrain trace will also be affected and cause you to have a higher than desired crossover.

● Select PRO CAL. This will lower the bubble to 5000′ and as you can see from Fig 3 this will allow you to be 2300′ AGL and still have a good TA set. This keeps your clearance plane constant and desired height for crossover is maintained.

Let's look at the primary TA calibration point for IR-300 for just a moment. The flyover altitude is 9340′. Surrounding contour lines are 6000′. With a clearance plane setting of 800′ your minimum range is 6864′. From Fig 3, 6864′ can be interpolated to be about 3100 to 3200 feet AGL for −27.5 spillover. This means if your altitude above the ground exceeds 3200′ you could get anomalous terrain signals fed into the feed horns. Since your altitude is 9340 MSL, you are about 3340 AGL. You are outside the 3200′ bubble so if you get a bad return on your TA set you will know why. On Wilder, have you ever had a bad calibration on the primary but a good one on the alternate peak? At the alternate peak you are about 2240 AGL and well inside the 3200′ bubble.

These anomalies may be present primarily in three common situations:

● First, TA calibration where you are more than 3100 feet above the surrounding terrain.

● Second, a gradual climb over high terrain and 2400′ AGL with a 600′ clearance plane set. If you climb over Paradise Peak on IR 300 in profile 10, once you get 2400′ above the ground you are going to get erroneous information into your scope. The interesting thing about this anomaly is that the longer you are closer to the terrain the better your presentation will be; i.e., a 10 mile climb is not as good as a six mile climb. You want to stay "as low as possible, as long as possible." A roller coaster ride is better for the TA equipment than a gradual climb from 10 miles out. If you have to make a 10 mile climb due to performance constraints be aware that as your radar altimeter increases, you increase your chance for a bad trace.

● The third place you can get an erroneous trace would be in an area of deep gorges you are crossing perpendicularly. Each time the radar altimeter exceeds 2400′ (with a 600′ clearance plane setting) you will get erroneous information fed into your scope.

In summary, during a peak calibration erroneous information may be fed into your TA set. Also, the closer the clearance plane is to the aircraft the lower you must stay. Finally, with a setting close to the aircraft, if you have to climb over high terrain, and you start receiving anomalies on your TA trace, try selecting PRO CAL. **Good luck and keep the green side up.**

THE BIG INSTRUMENT!

A REVIEW TO MAKE YOUR SEASON MERRY

Captain Rhett T. Cooper,
Captain Bud Holland and
Captain Colin J. Crim
1st CEVG, Barksdale

Gone, it seems, are the days when a pilot could quickly recall from memory the exact wording of all the regulations and directives that govern IFR operations. As a cure for this deficiency, an occasional review of important material is always helpful and will certainly be of benefit during those critical phases of flight. During the past year the Instrument Division has covered some of this need-to-know information in "Big I" articles. If you'll remember, we discussed "Landing Illusions" in January and it's again that time of year when nasty illusions are likely to develop. Many factors may influence the tricks our eyes can play on us when attempting to land under obscured sky conditions. Stress, environment, terrain contrast, runway length-width and slope, and weather all contribute to the phenomena called landing illusions. There are, however, two simple techniques which can help protect you from these illusions. The first technique is to picture in your mind just what you expect to see when breaking out and going visual. Become familiar with the runway and lighting diagrams contained in the FLIP and then picture what the runway environment should look like when going visual to complete the landing. If things **don't** look like you expected, consider going around. The second technique is proper use of other crew positions as "back up" for the pilot throughout the approach phase. Use everything available to safely land the aircraft! Santa must be a real "pro" at combating illusions. In all these years not one landing mishap. Good preplanning must help. Let's move on and see what Maj. Jim Sullivan had to say in the February article . . . "Cockpit Comments."

Over and over again we see the need for a thorough working knowledge of the 60 to 1 rule. Whether on departure, enroute, or during the approach phase, use of this rule makes flying the aircraft much easier and helps us stay on top of that instrument cross-check. A review of the 60 to 1 applications may be in order and many of these techniques are contained in AFM 51-37, **Instrument Flying.** Remember, techniques are only techniques and should never be considered as substitutes for sound procedures. But good techniques can make many instrument maneuvers quite simple.

Once you've met Maj. Error and Capt. Blunder you will understand why this pilot team will never be hired by "Elves Sleigh-Lines, Inc." In the March article we took you through a few missions with these guys who, although they didn't know it, obviously needed help. This pilot team was making every conceivable mistake. Contributing to their difficulty in making correct inflight decisions was a definite lack of knowledge of instrument flight directives. A review of those need-to-know bits of information would have made their flights easier, and for sure, a lot safer. Their biggest problem was in thinking they had mastered their air machine. When this happens to any pilot, trouble is only around the corner. The air machine will inevitably prove us wrong. Without diligent and frequent practice to develop and maintain a good cross-check we may find ourselves holding the short end of the stick and no amount of luck will save the day. Think about it . . . are you really "The Very Best?" Santa spends many hours in his simulator working on an effective cross-check. After all, he only flies operationally once a year.

Departure Control responsibilities were discussed in May. Also covered in that article was the term "At Pilot's Discretion." Units still have questions on how we execute a climb or descent when this term is included in an ATC clearance. Let's review the rules one more time. When cleared "At Pilot's Discretion," the pilot has been given the option to start climb or descent whenever he/she wishes. Additionally, the climb or descent may be at any rate we choose and we may temporarily level off at any intermediate altitude. Remember though, once we vacate an altitude, we may not return to that altitude. Be sure to advise ATC when departing your last assigned altitude. A review of the Airman's Information Manual, paragraph 270, will "Clear the Air" of any more confusion in this area.

The time for sleigh bells ringing and snow glistening is certainly upon us, but let's remember for a moment the heat and humidity of the "Good Ol' Summer Time." In our June article two important areas were covered . . . adverse weather and the need to properly clear for other aircraft when in VMC. First, let's take a brief look at how ATC can assist us during hazardous weather conditions. ATC radar displays weather returns as a result of the echoes created by precipitation. However, ATC radar cannot detect turbulence. ATC is phasing in computer generated radar displays which provide the controller with two distinct levels of weather intensity. Controllers will issue pertinent information on weather and assist pilots in avoiding such areas when requested. We, as pilots, must plan ahead and be prepared for adverse weather and not wait until it's too late to ask ATC for weather information or flight plan deviations. Santa recommends as technique that we not fly the aerospace vehicle into a box, then panic, and do a 360 to get out of trouble. Now, what about "clearing?" It's just as important during the winter season. Thousands of aviators take to the skies every day and our job is to use effective clearing to prevent an airborne exchange of pilots and passengers. Develop an effective scanning pattern and then adhere to that pattern to assure optimum clearing. By the way, keep a good lookout for red nosed reindeer during the next couple of weeks. Perhaps we should NOTAM that information.

In July, "Descents," both enroute and those from visual descent points, (VDPs), were thoroughly discussed. Santa, however, has requested a refresher course on descents to ensure his safe return to the North Pole. Airspace in our local flying areas is much more crowded than that surrounding the North Pole. We should never count on our requested descent to begin at the desired descent point. Additionally, variables such as winds, intermediate level-offs, and unexpected vectors during the descent can disrupt even the best of plans. It doesn't matter which of the "magic" formulas you use, but by periodically updating your progress during the descent you can detect any deviations from the desired descent gradient and make appropriate corrections. In that article a discussion of descents at VDP's was also included. We pointed out that too many pilots were waiting until passage of the VDP to look outside and acquire the runway environment visually. This technique causes steep finals and long landings. Look for the runway prior to the VDP and use all available information including VDP and visual cues to determine when to start down from the MDA.

During the past year we have witnessed many changes in the world of instrument flight. One significant change that will impact us directly is the opening of the SAC Instrument Flight Course, (SIFC). The August "Big I" was dedicated to the "SIFC;" its conception, objectives, and a brief overview of the curriculum were discussed. Here's an update on its progress. **The first class will be conducted from 6 through 17 December 1982.** Rumor has it Santa will be a member of that class. The SIFC presents an opportunity for many of us to become in-depth instrument experts and is one of the few schools in existence designed especially for pilots. Now is the time to let your desires be known if you wish to attend this excellent school. You may even consider making a list, checking it twice, and placing the SIFC right at the top.

Instrument flight . . . "It Takes Two to Tango" . . . the pilot and the Air Traffic Controller. "The Other Side of the Coin" focused on the procedures and phraseology used by ATC and how they relate to our day-to-day flying operations. Let us look again at two terms used by ATC and what they mean to the issuing controller and to us. "Immediately" . . . expeditious compliance is necessary to avoid an imminent situation. "Expedite" . . . prompt compliance is required to avoid the development of an imminent situation. The controller will normally state the reason for the revised clearance if time permits. In either case, we should execute the required maneuver now! You can query the controller later. These are merely two of the many terms contained in the ATC Handbook, 7110.65c. Even though we're not responsible for its contents, it would behoove us to be on the same wave length as the controller and use the same dictionary. Santa understands the need for common terminology. How else could he talk to his reindeer?

Navigators can help us fly more precise and controlled instrument approaches. That was the thrust of "Compensating for Winds Revisited," our October "Big I." Crewmembers often ask, "What is the most important function for a navigator when performing an instrument approach?" Tech order procedures obviously come first, but a "sharp" navigator can help us combat the effects of wind and wind shear on final. Let the navigator keep you posted on those unexpected changes in wind velocity and direction. Refer to that article for some valuable pilot and navigator techniques which may mean the difference between a stabilized approach or checking the outer limits on the PAR scope.

Going South for the winter certainly makes for better flying conditions but a thorough knowledge of "Pilot/Controller Roles and Responsibilities" is still required. In the November "Big I" we ventured once again into the Airman's Information Manual and the Air Traffic Control Handbook for a brief look at what is expected of the pilot and controller during various phases of flight. The article pointed out that the controller is responsible first for separation of aircraft and safety advisories. Other required and additional controller services are performed as time permits. On the other hand, the pilot of an aircraft is directly responsible for, and is the final authority, as to the safe operation of the aircraft. How do these roles/responsibilities fit together? If in doubt as to the answer, it just goes to show that flying experience does not always fill the void left by insufficient procedural knowledge. If these directives, (AIM and the ATC Handbook), aren't currently in your library, you may want to include them on that list we discussed earlier.

Santa Claus, with the help of Rudolph, his Flight Lead, has logged thousands of accident-free hours in the worst of weather conditions. It's time for all of us to take the reindeer by the horns, review the books, improve our cross-checks, and accept nothing but a professional attitude and sound instrument flying on all of our missions. That way, we can give the best gift of all this year . . . many more seasons of accident-free flying. With that in mind —

Merry Christmas and
a Happy New Year
from
Rhett, Bud, and Colin

CREWTOONS

TRUE, I ASKED FOR A CENTER-SPREAD. BUT, SGT PARRISH, THIS ISN'T EXACTLY WHAT I HAD IN MIND !!!
DON'T FORGET... COMBAT CREW CAN USE... CARTOONS & ART WORK... ...SEND UM IN !!!
COORDNG
FEB INPUT
FEB 83 COPY
EDITOR
Combat Crew
ART & COPY
COPY
FIX COPY
FIX
BY W. KIRKPATRICK USAF (RET)

OK GUNNER ARE YOU READY TO START UNLOADING OUR GEAR?
ROG.... START PASSING IT OUT.
Thompson
BLIP
USAF

Featuring
Col. Jerry Thompson
Offutt, AFB, NE

MEN, WE ARE GOING TO WAR.......BUT FIRST A FEW WRITTEN EXAMS!
Thompson

Submit to Art Editor:
All photos, artwork, and illustrations pertaining to safety or the SAC mission
— photos — 5″x7″ min. and B&W
— Illustrations, cartoons, etc. — limited to B&W
— CAPTIONS PLEASE

1982 SAC SAFETY AWARD WINNERS

CHIEF OF STAFF INDIVIDUAL SAFETY AWARD

General B. L. Davis, Commander in Chief, SAC, presents the Chief of Staff Individual Safety Award to Lt Roy L. Gresham, 351st SMW, Whiteman AFB.

KOREN KOLLIGIAN, JR. TROPHY

General Charles A. Gabriel, USAF Chief of Staff, presents the Kolligian Trophy to Capt Larry E. Faber, 9th SRW, Beale AFB.

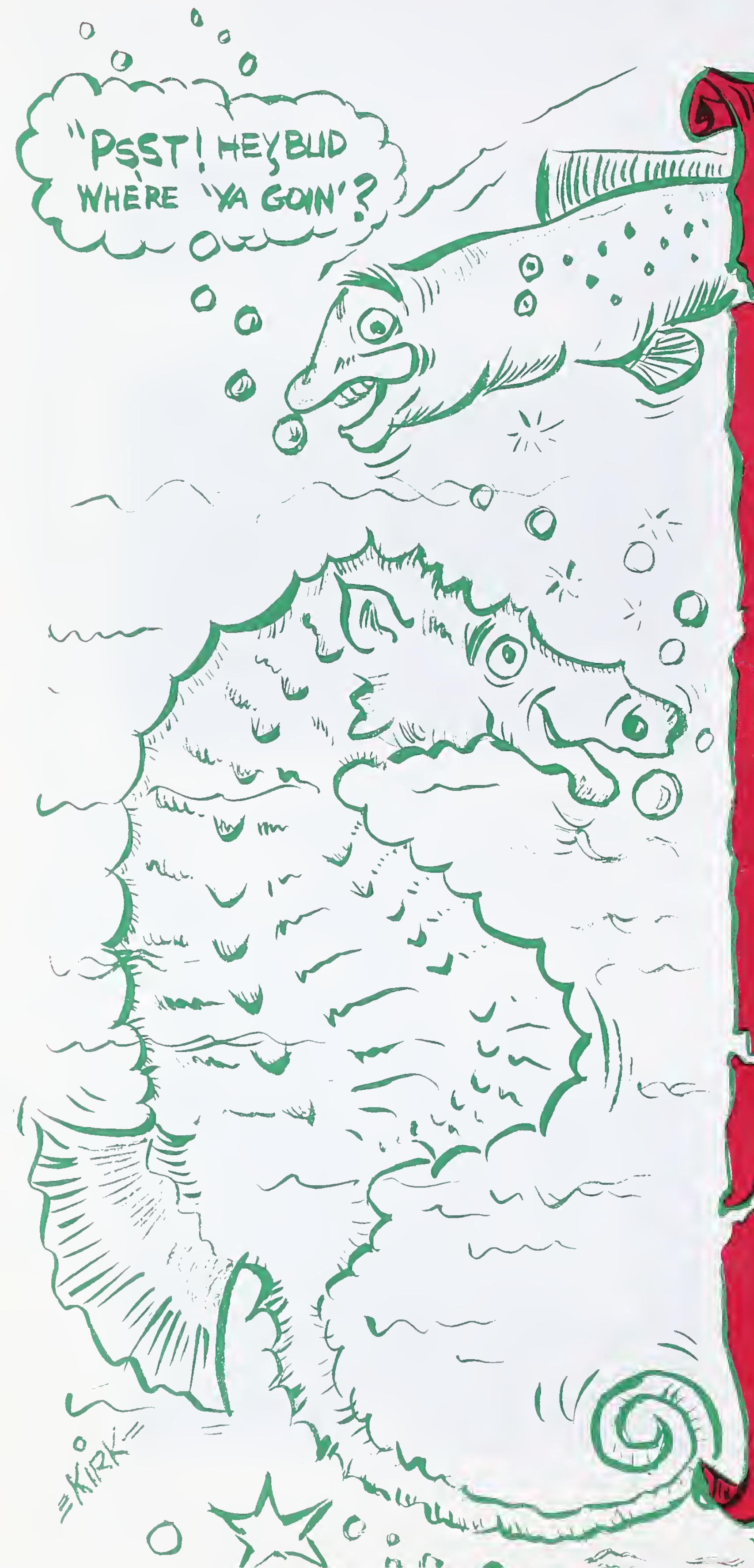
THE DIRECTOR OF AEROSPACE SAFETY SPECIAL ACHIEVEMENT AWARD

General B. L. Davis presents the Special Achievement award to Maj Bobby R. Quisenberry, HQ SAC/IGFM.

THE DIRECTOR OF AEROSPACE SAFETY SPECIAL ACHIEVEMENT AWARD

Accepting the Special Achievement award for the 55th SRW, Offutt AFB, from General B. L. Davis, is Col W. John Soper, 55th SRW Commander.

THE TRAINING KEY


"PSST! HEY BUD WHERE 'YA GOIN'?
KIRK

Once upon a time a Sea Horse gathered up his seven pieces of eight and cantered out to find his fortune. Before he had traveled very far he met an EEL, who said,

"Psst. Hey, bud. Where 'ya goin'?"

"I'm going out to find my fortune," replied the Sea Horse, proudly.

"You're in luck," said the Eel. "For four pieces of eight you can have this speedy flipper, and then you'll be able to get there a lot faster."

"Gee, that's swell," said the Sea Horse, and paid the money and put on the flipper and slithered off at twice the speed. Soon he came upon a Sponge, who said,

"Psst. Hey, bud, where, "ya goin'?"

"I'm going out to find my fortune," replied the Sea Horse.

"You're in luck," said the Sponge. "For a small fee I will let you have this jet-propelled scooter so that you will be able to travel a lot faster."

So the Sea Horse bought the scooter with his remaining money and went zooming thru the sea five times as fast. Soon he came upon a Shark, who said,

"Psst. Hey, bud. Where 'ya goin'?"

"I'm going to find my fortune," replied the Sea Horse.

"You're in luck. If you'll take this short cut," said the Shark, pointing to his open mouth, "you'll save yourself a lot of time."

"Gee, thanks," said the Sea Horse, and zoomed off into the interior of the Shark, and was never heard from again.

The moral of this fable is that if you're not sure where you're going, you're liable to end up someplace else.

Robert F. Mager

TO SUCCESS . . . CRI

Capt Theron Brown
4315th CCTS/CMCI, Vandenberg AFB

This little tale points out how setting your goals is important for achieving them. Criterion-referenced Instruction (CRI) is a way of organizing and managing instruction to ensure important goals, called training outcomes, are achieved by each learner. It is a way of tuning the instruction so each student accomplishes all objectives without wasting time on information already known.

In October, 1982, the 4315th CCTS Instructional Technology Section at Vandenberg began teaching the Criterion-referenced Instruction, the Mini-criterion-referenced Instruction (MCRI), and the Wing Instructional Systems Manager (WISM) courses. Previously these courses were only taught at Carswell AFB, but the 4315th CCTS ITS now teaches these exciting courses to all missile training people. They provide training for individuals involved in managing and supervising the preparation, development, implementation and evaluation of missile training programs at all levels of command.

For courses designed to teach trainees to perform at a particular level, the criterion-referenced approach can be used to good advantage. While it is obvious that CRI techniques are applicable to courses designed to teach knowledge, technical and scientific skills, it is also true that the approach is particularly appropriate for the design and implementation of management development courses.

CRI is designed for anyone who will be expected to develop, manage, instruct or understand training — such as instructional analysts, course designers, instructors and their supervisors. Criterion-referenced Instruction can give your staff a whole new level of training professionalism by increasing their knowledge through a systematic approach to instruction.

The CRI course is designed for instructors, while the Mini-CRI is designed primarily for supervisors. The Mini-CRI is shorter, since it is more general and does not provide the details required for those using CRI in the classroom. Supervisors require knowledge of certain procedures and when they are implemented, but their performance requirements are not as stringent as those for instructor system designers.

CRI and Mini-CRI require completion of a series of modules, with each student demonstrating competence in one module before progressing to the next. This competence is determined by a criterion test covering module requirements. Course length is determined by each student's ability to progress through all the modules.

The WISM course is also offered. The WISM is the manager of wing training and evaluation programs in the missile career field. This course is designed to incorporate CRI concepts, as well as techniques useful for WISM management which will enable them to develop and manage their own programs.

As mentioned before, these courses began in October 1982, and are being taught by the 4315th CCTS ITS at Vandenberg. The WISM course is offered twice a year and lasts four weeks; CRI is offered six times a year and lasts three weeks; and the Mini-CRI is offered eight times a year and lasts one week. While these are maximum times for course completion, the courses are self-paced and can be completed in less time.

If you are interested in attending any of these exciting courses, contact your base classification and training section. These courses are listed in AFM 50-5. If you require more information or have any questions, contact the 4315th CCTS Instructional Technology Section at Autovon 276-8958.

MISSILE SAFETY: A WAY OF LIFE

1Lt Charles D. Lambert
44th SMW, Ellsworth AFB

Safety in the military has progressed a long way. From the cavalry days, when perhaps the greatest hazard was being thrown from your horse with nothing to stop your fall, to the present, the history of safety has been one of continual progress toward protecting resources, both personnel and material. The Air Force insists that safety be designed into all new equipment, either integrally or through personal protective equipment. In spite of all the engineering efforts toward improving safety, awareness and compliance by personnel appear to be the weakest link in the proverbial chain.

Sure, everyone knows safety is important. From day one in the Air Force, safety is presented to the point of overkill: traffic safety classes, weapon safety, ground safety, safety bulletin boards, safety briefings . . .; the list could go on and on. And if that isn't enough, there are always the friendly safety inspectors just dropping by to check things out. With all this confronting the average person, you would think they would be truly "safety conscious," but are they?

Every work place in the Air Force has seemingly built-in hazards just waiting to grab an unsuspecting victim. The missile environment has more than its share of hazards. Although the missile systems are as old as many of the people maintaining them, engineering has not been able to reduce or eliminate all the hazards. The three "E's" of safety tell us that if engineering can't eliminate a hazard, reduction of mishaps must be through education and enforcement.

This brings us back to our opening point; personnel are excessively educated on all aspects of safety, yet mishaps continue to occur. Mishaps caused by material failure do not raise many eyebrows, since they are usually not preventable and safety engineering can bring about changes to keep them from recurring. Mishaps caused by personnel error are a different story. In nearly every case, they are preventable. The Air Force loses thousands of dollars each year because of missile mishaps which are written off as caused by personnel error. Specific causes are too numerous to list, but generally boil down to lack of safety awareness/concern and failure to comply with safety directives/technical orders.

Personnel error caused mishaps are only the tip of the iceberg. A sizeable number of UQ boards deal with personnel errors which are related to safety in one way or another. It has become an alarming situation. If safety awareness is not displayed when inspectors/evaluators are present, what is going on when no one is there to check on safety? Obviously, there are a lot of mishaps waiting to happen.

A genuine concern should be the continued safety of personnel and equipment, but actions recommended in mishap investigations seldom reach the mark. The standard recommendation is to brief all personnel on the details of the mishap. UQ boards are no different, with their standard "one hour T.O. study and reevaluate on task" as corrective action. How effective are these actions when personnel error caused mishaps keep recurring? No one expects the perpetrator of a mishap to be hung, but it is expected that someone involved in a mishap will learn from it and not allow it to happen again. This is a great theory but it doesn't account for the majority who have never been involved in a mishap.

Preach mishap prevention and lessons learned, then mishaps will be reduced or eliminated. Not necessarily. Even the best instructors cannot get through to all the troops. You know the ones. The troops who would never be involved in a mishap because mishaps always happen to the "other guy." Sure, it always happens to the "other guy." Just ask that "other guy" sometime if he/she planned to have a mishap. Of course they didn't. I have heard all the stories. "Safety gear is uncomfortable to wear." "Takes too much time and trouble to put it on." "Didn't use the T.O. because I thought I knew all the steps in the task." Whatever

the excuse, they are all classics, no originals. And those troops who believe firmly in the "other guy" theory will never be swayed from their beliefs. Their attitude toward safety classes and briefings is indifferent at best. You bet they are sharp troops, until they cross that invisible line and become the "other guy."

In order to help keep personnel from becoming the "other guy," the Air Force has invested thousands of dollars to provide adequate safety equipment, but getting personnel to use it is the big problem. One Deputy Commander for Maintenance, when chairing UQ boards involving failure of personnel to use safety equipment, contrasts the Air Force with a small auto repair shop. The small shop is not under any federal or state laws requiring safety equipment. Being on a tight budget to make a profit, they don't provide any safety equipment for their personnel. Odds are they have employees with missing fingers, scars, partial blindness from welding without eye-protection, etc.; all because the employer chose not to provide safety equipment for his/her employees. The Air Force, on the other hand, has provided all the necessary safety equipment because it wants to keep its personnel as safe as possible. Why then don't people use the free protection they are given?

The USAF Mishap Prevention Program is beset by many problems. Engineering, education and enforcement of safety are on-going programs, but they are apparently not effective in getting to the root of the problem. Safety programs are only as good as the personnel in the unit. Command and supervisory support strengthen safety programs, however, support is needed from all personnel. In order to have a truly effective mishap prevention program and be mishap free, what is needed is a commitment to safety by all personnel: a commitment to make safety a way of life, first and foremost. Only then will we be operating in a truly safe environment and reduce costly mishaps.

Professional Performers

AIRCRAFT MAINTENANCE

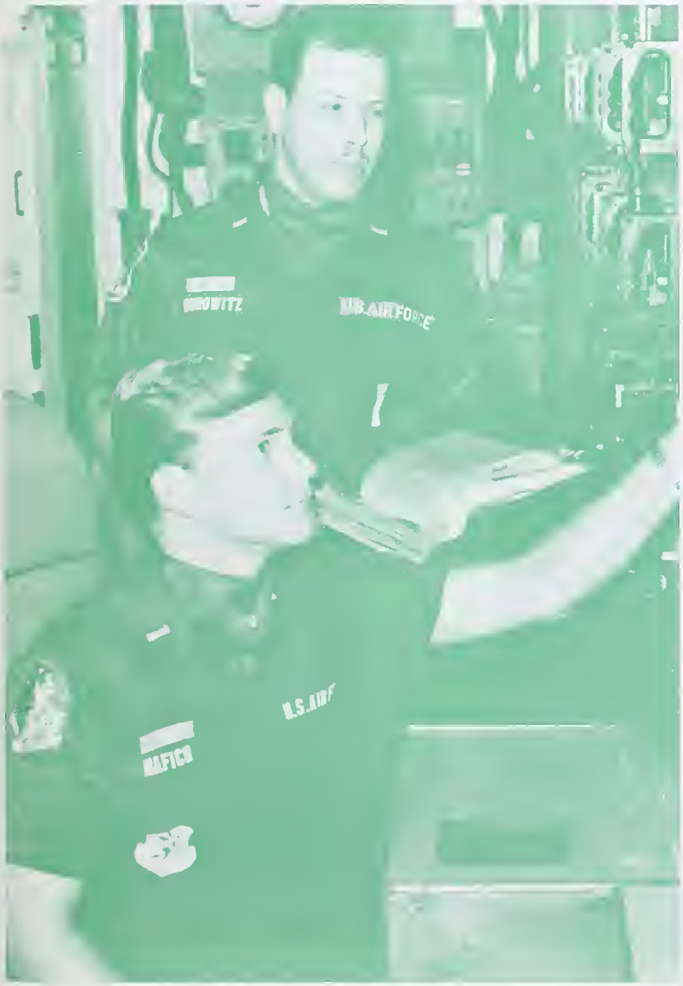
SSgt Tony Archuleta, 68th BMW, Seymour Johnson AFB, is SAC Maintenance Airman of the Month. Sgt Archuleta demonstrated exceptional technical ability, leadership and initiative in his duties as an aircraft jet engine technician. During the last ORI, under his supervision, a B-52 double engine change was accomplished with such precision and timeliness that it enabled the aircraft to meet the critical generation timing. Using his ability to influence positive attitudes and elicit cooperation from his personnel, fellow supervisors and others, Sgt Archuleta completely reversed a negative trend in standards of performances, equipment maintenance and housekeeping. His overall performance has been outstanding and he is a true professional and a valuable asset to SAC and the United States Air Force.

MISSILE MAINTENANCE

SSgt Alonzo Hall III, 44th SMW, Ellsworth AFB, is SAC ICBM Maintenance Airman of the Month. Sgt Hall is the key ingredient in the formula of successful accomplishments by the wing's missile maintenance training program. His high degree of technical expertise, ability to impart complex knowledge and devotion to duty enabled him to acquire the position of lead instructor for the combined EMT and SSMT shop. His efforts are critical to the wing's EWO requirements and are directly attributable to the availability of qualified technicians to perform crucial maintenance dispatches. Sgt Hall continuously strives to reduce the considerable student backlog in EMT to increase work force availability. Consequently, dispatching technicians have been able to maintain missiles on alert status at an unprecedented rate above 98 percent.

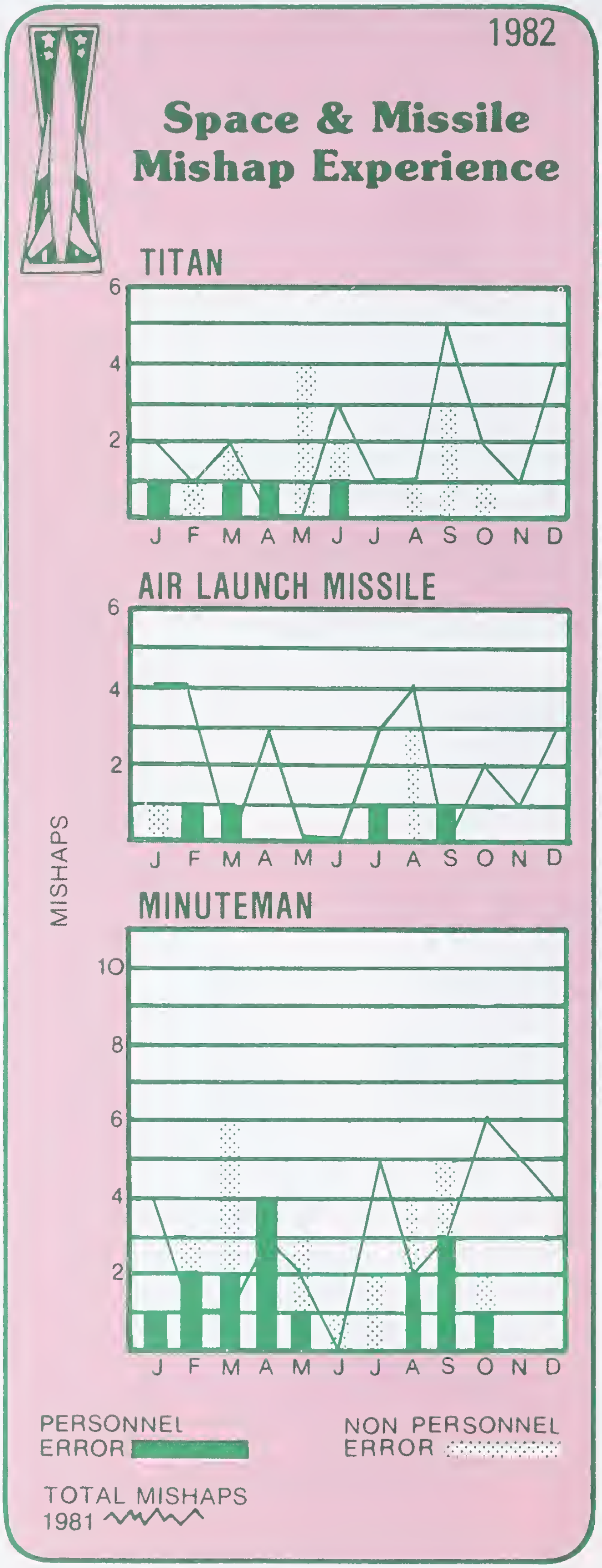
FLYING CREW

Capt Richard Packard, AC; 1Lt Robert Hendrickson, CP; Capt Robert Barrier, N; and SSgt Frank Tesser, BO, 96th BMW, were scheduled for a Business Effort TDY to Bergstrom AFB. During the takeoff roll all engine indications were normal. Shortly after takeoff, the boom operator called out a fire warning light for the number one engine. As the copilot started to raise the gear, a loud thud was heard and the number one engine flamed out. Flameout occurred approximately 8-10 seconds after the fire light illuminated. After correcting yaw and ascertaining from the boom operator that the engine was smoking badly, the copilot shut down the engine and pulled the number one fire switch. An emergency was declared and the crew learned that although the heavy black smoke had subsided, a fire was burning through the outboard cowling. After jettisoning approximately 25,000 pounds of fuel, an ILS approach landing was prepared. From the cockpit the crew could see an increasing amount of smoke from the engine. The inside cowling was beginning to discolor as was the first foot of the top part of the strut. The pilot landed the KC-135A within the first 1000 feet of the runway and total ground roll was approximately 4800 feet. After the engines were shut down, the crew abandoned the aircraft. Flight duration was 12 minutes.



MISSILE CREW

The 91st SMW, Crew R-093: 1Lt Mark Hurowitz, MCCC and 2Lt David Hafich, DMCCC, is SAC Missile Crew of the Month. During a squadron code change, the crew faced numerous complex problems in a relatively short period of time. During their alert, Crew R-093 also received multiple launch facility alarms, LF power failures and several losses of primary power to the LCC. All of these activities, coupled with the code change and day to day occurrences such as security situations, LF checks, and both LF and LCC faults, provided a highly eventful alert tour. Crew R-093's professional handling of these multiple situations warrants their selection as the SAC Missile Crew of the Month.



CAREER CORNER

In this section, we would like to inform you of some of the latest happenings in the personnel world that could impact your careers. From time to time, we will try to bring you up to date on current personnel issues and put an end to any rumors that may be running rampantly through the alert facility. In this month's issue we will cover the new entry requirements for the FB-111, the SAC/TAC Exchange, and the SAC/MAC Crossflow Program. If you have any questions after reading about the programs, contact the HQ SAC Rated Officer Assignments Branch at AV 271-4298/4260.

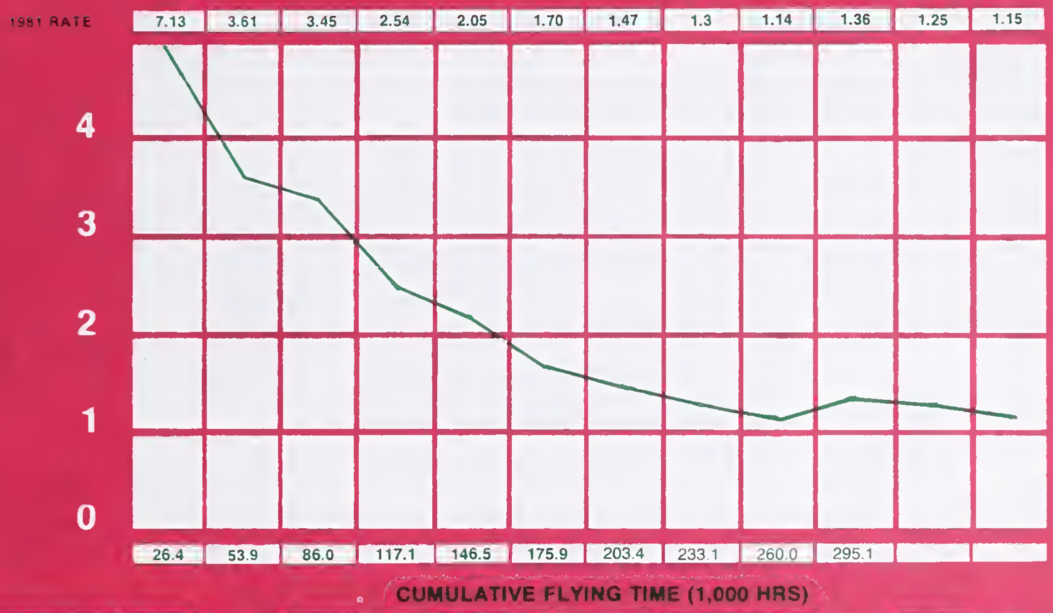
FB-111 Program. In addition to B-52 pilots and radar navigators, B-52 pilots and navigators are now being accepted as crewmembers in the FB-111. Approximately three copilots and three navs will be accepted each year if you meet the PUP and NUP criteria. For PUPs you need 1100 hours total time (500 hours minimum B-52 time and 250 hours ACE time). For NUPs you need a total of 800 hours total time (500 in the B-52). Applicants must not have failed a stan/eval check in the last two years to be acceptable for entry into the FB-111 program. No changes for KC-135 crewmembers interested in flying the FB. The remainder of the training slots for FB-111 duty will be allocated according to the requirements in AFM 50-5. For all interested candidates, both B-52 and KC-135 alike, follow the application procedures in AFM 50-5. Remember, we need approval of your wing commander — that occurs only when he signs your AF Form 2095.

SAC/TAC Exchange. For all you guys who want to hurl your bodies at the earth and get down in the mud, we have our SAC/TAC exchange program. The next selection board will be held in January 1983. Selected officers will be given a three-year controlled tour in TAC and then return to SAC. If you are a rated officer in the 6-10 year group, you can apply for this unique opportunity. Only officers with an outstanding military and flying record should apply. To be considered, just indicate TAC in the major command preference of your AF Form 90 (blocks 24-25) and indicate the TAC weapon system of your choice in the remaining section (blocks 31-33). Selected officers will be announced in late February.

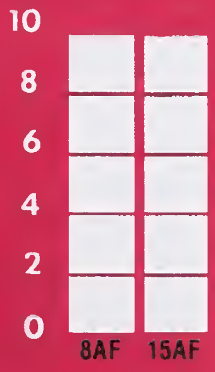
SAC/MAC Crossflow. Another opportunity for our SAC people to see the other side of the fence is the SAC/MAC crossflow. Unlike the SAC/TAC exchange, the crossflow program officers will be given a choice to remain in MAC or return to SAC after their tour. The program is open to both pilots and navigators. The aircraft you can crossflow to are the C-5, C-141, C-9, and C-130. Participants in the program will be in the grade of major or below. Pilots must be aircraft commanders with at least 1300 hours flying time. Navigators must have a minimum of 1000 hours. The application procedure is similar to the SAC/TAC program in that you would indicate MAC in the major command preference of your AF Form 90. The next step would be to indicate the aircraft you want to fly in the retraining block. It is a competitive process and only the best individuals will be selected for this opportunity.

1982 Flying Safety Rate

SAC CLASS A MISHAP RATE (PER 100,000 FLYING HRS)



MISHAPS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1981	2	0	1	0	0	0	0	0	0	1	0	0
1982	0	0	0	0	0	0	0	0	0	0		



MISHAP STATUS

+KC-135A	MAR 82
+KC-135A	MAR 82

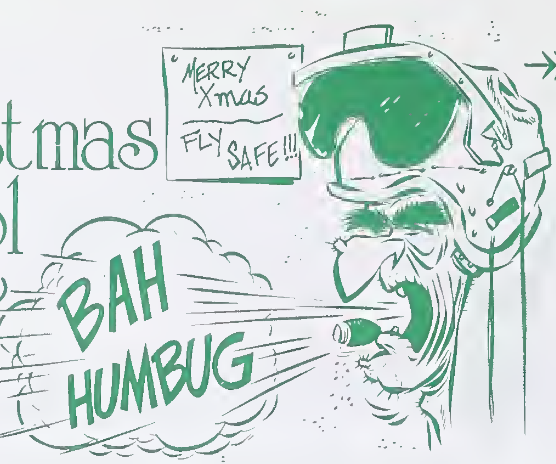
LEGEND ╱╲ = 1981 RATE (SAC)
+ = ANG
– = AFRES

A Christmas Carol

(CIRCA '58)

WITH APOLOGIES
TO DICKENS

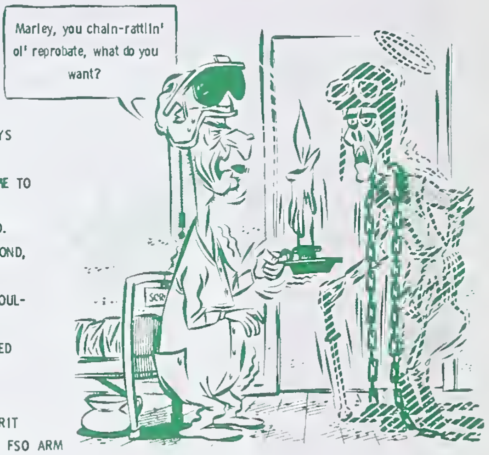
Reprinted from
Combat Crew,
Dec 1958
Jake Schuffert



IT'S A COLD CHRISTMAS EVE, THE NIGHT FOG SEEPING THROUGH THE CRACKS OF BASE OPS. INSIDE, THE TIGAHS ARE BEING LECTURED BY THEIR SENIOR MEMBER, BENZINESNEEZER SCROOGE, LT. COL., USAF, AS CARELESS AND CALLOUS A TIGAH AS EVER WRAPPED A GLOVE AROUND A JOY STICK.

"THIS SAFETY STUFF IS HUMBUG," HE CROAKS, "IT'S MAKING A BUNCH OF CREAMPUFFS OF YOU GUYS, LOOK AT ME, I'M BOLD AND I'M OLD. KNOCKS THAT OLD SAYING INTO A COCKED HAT, EH BOYS? HEH, HEH. ANY FOOL WHO GOES AROUND SPOUTING SAFETY POOP SHOULD HAVE TEN LASHES WITH A ROLLED-UP COPY OF 'COMBAT CREW.' HUMBUG ! AND THAT GOES FOR CHRISTMAS TOO," HE ADDS, IRKED BECAUSE HE MUST SPEND THE HOLIDAY ON ALERT.

AFTER HUMBUGGING SAFETY AND GIVING ALL CONNECTED THEREWITH A HARD TIME, SCROOGE PLODS THROUGH THE CHRISTMAS SNOW TO THE SOLITARY CONFINES OF HIS BOQ, THE WORDS "BAH! HUMBUG!" STILL EMANATING FROM HIS CYNICAL LIPS.


Marley, you chain-rattlin' ol' reprobate, what do you want?

ONCE BEHIND THE DOORS OF HIS CHAMBER, SCROOGE PREPARES FOR THE SACK. THEN IT APPEARS - - AN APPARITION ACCOMPANIED BY THE RATTLING OF RUSTY CHAINS.

"WHO- - WHO ARE YOU?" ASKS THE TREMBLING SCROOGE.

"ASK ME, RATHER, WHO I WAS," RETORTS THE ECTOPLASMIC FORM. "I WAS YOUR OLD WING MAN, JAKE MARLEY."

"JAKE MARLEY?" CROAKS SCROOGE, "IMPOSSIBLE! YOU DIED MANY YEARS AGO TRYING TO DO A REVERSE IMMELMAN LANDING IN A WRIGHT BROTHERS ORIGINAL. I KNOW, I HELPED SWEEP YOU UP INTO A NEAT LITTLE PILE. BUT I ALWAYS ADMIRED YOU, JAKE; YOU NEVER LET THIS SAFETY STUFF CRAMP YOUR FLYING STYLE. BUT TELL ME, WHY ARE YOU FETTERED?"

I was a baaaad boy
??
FSO
N
E
W
S

"I WEAR THE CHAINS OF CARELESSNESS I FORGED IN LIFE," SAYS MARLEY, " LINK BY LINK I MADE IT — IGNORED TOs, STUNT FLYING, CITY BUZZING, HEDGE HOPPING, ETC. I'VE COME TO WARN YOU, BENZINESNEEZER, AND TO HELP YOU AVOID MY FATE. I'M SENDING THREE OF MY FELLOW SPIRITS TO GIVE YOU THE WORD. THE FIRST WILL APPEAR TO YOU AS THE CLOCK TOLLS ONE; THE SECOND, AT THE STRIKE OF TWO; AND THE THIRD, AT THREE O'CLOCK."

SAYING THIS, OLD MARLEY, RATTLING HIS CHAINS, LETS OUT A SOUL-SHATTERING MOAN AND DISAPPEARS IN A CLOUD OF RUST.

THOROUGHLY FRIGHTENED, YET DUBIOUS SCROOGE HOPS INTO BED MUTTERING, "BAH! HUMBUG!" AND FALLS ASLEEP.

AS THE CLOCK TOLLS ONE ON CHRISTMAS MORN THE FIRST SPIRIT APPEARS, DRESSED IN ANCIENT FLYING GARB AND WEARING AN FSO ARM BAND. LEADING BEN INTO THE PAST, HE SHOWS HIM HIS EARLY FLYING CARELESSNESS.

"COULD THIS HAVE BEEN ME?" ASKS SCROOGE. "DID I REALLY PULL THOSE STUPID STUNTS?"

THE GHOST OF THE PAST ASSURED HIM HE HAD.

LEFT ALONE, SCROOGE WONDERS HOW HE EVER SURVIVED SUCH MANIACAL AIR JINKS. AND THE CLOCK STRIKES TWO.

THE SECOND SPECTRE, A PRESENT-DAY PILOT, IS ALSO WEARING THE FSO ARM BAND. HE SHOWS SCROOGE A SCREAMING JET, PERFORMING DEATH AND SAFETY-DEFYING AERIAL EPISODES.

"WHO'S THAT DUMB PILOT?" ASKS SCROOGE. WHEN TOLD IT WAS HE, BEN STARED IN DISBELIEF. FOR THE FIRST TIME HE SEES HIMSELF AS OTHERS SEE HIM. WHILE PONDERING THIS THE CLOCK STRIKES THREE AND SCROOGE FINDS HIMSELF IN THE PRESENCE OF SPIRIT THREE, THE SPECTRE OF CHRISTMAS YET TO COME

SPECTRE THREE IS DRESSED AS THE FSO OF THE FUTURE. HE SHOWS BENZINESNEEZER WHAT WILL HAPPEN TO HIM IN FUTURE YEARS IF HE DOESN'T GET ON THE SAFETY BALL.

THEY WATCH AS A HYPERSONIC MANNED ROCKET ROARS INTO VIEW DOING NIP-UPS AT 25,000 MPH, THEN CLOBBERS INTO A NEARBY PLANET KNOCKING IT COMPLETELY OFF ITS ORBIT. SCROOGE IS HORRIFIED AS HE WITNESSES THE DEVASTATING DEMISE OF THIS SPACE TIGER. AS THEY APPROACH THE MOLTEN WRECK AND THE SHATTERED BODY THEREIN, THE GHOST OF THE FUTURE POINTS WITH MAILED GLOVE TO THE PILOT'S NAME —BARELY VISIBLE ON THIS HEAP OF SMOULDERING DEBRIS:

BENZINESNEEZER SCROOGE, LT. COL , USAF.

"GAD ZEUS, THAT'S ME!" SCREAMS THE TREMBLING, FRIGHTENED SCROOGE.

"THIS IS TRUE, " SAYS SPECTRE THREE. "I HAVE SHOWN YOU SCENES OF THE FUTURE THAT WILL SURELY TAKE PLACE UNLESS YOU CHANGE YOUR PERILOUS WAYS."

SCREAMING AND PLEADING FOR ONE MORE CHANCE, SCROOGE AWAKENS TO FIND HIMSELF BACK IN THE BOQ.

TIS CHRISTMAS DAY. RELIEF FLOODS SCROOGE'S SOUL TO FIND HE IS STILL AMOUNG THE LIVING. RECALLING THE HEAP OF SCRAP SHATTERED AGAINST THE PLANET, HE IMMEDIATELY RESOLVES TO HONOR THE SAFE FLYING CODE IN EVERY THOUGHT AND DEED. " BAH, HUMBUG " WILL NO LONGER BE PART OF HIS VOCABULARY WITH REGARD TO SAFETY, AND 'COMBAT CREW' WILL BE HIS GUIDE.

How the heck did this sneaky spook find out about that?
FSO

THUS WAS HE RECLAIMED. THE PRODIGAL TIGAH SCROOGE RETURNED TO THE SAFE FLYING FLOCK — AND WE MIGHT ADD, DID LIVE TO BECOME A VERY OLD PILOT, INDEED.

SAC SAFETY SCREEN

These Warriors . . . The Cutting
Edge of The National Resolve

37 BMS, Ellsworth Crew E-54: P Capt Donald T Watkins, CP 1Lt James J Culabufo, RN Capt Bruce L Jeffrey, N 1Lt Steven J Borecky, EWO Maj Donald W Sievens, G SrA Christopher S Stevenson

77 BMS, Ellsworth Crew E-05: P Capt Fred L Wells III, CP 1Lt Michael E Ware, RN Capt Ira B Maltz, N 1Lt Alan J Cole, EWO 1Lt Robert M Wiehr, G Sgt Roger A Wootten

28 AREFS, Ellsworth Crew E-108: P Capt Mark D Gunn, CP Capt John H McCartney, CP 2Lt Don A Edrick, N 1Lt Wayne A Schiefer, BO SrA Jeffrey A Stewart

128 ARG, Gen Mitchell Fld, WIANG: P Capt Edward J Holland Jr, P Capt Fredrick C Kurth, IN Lt Col Richard H Pleister, BO TSgt Clifford C Klingbeil

384 AREFS, McConnell Crew R-153: P Capt Jimmy R Coffer, CP Capt William M Homeyer, N 1Lt Francis J Robinson, BO SSgt Robert A Johnson

91 AREFS, McConnell Crew E-109: P Capt Kirk B F Miller, CP 2Lt Scott L Wagner, N Capt James D Sanders, BO SSgt Rand M Sanders

529 BMS, Plattsburgh Crew E-63: P Capt Craig P Rasmussen, NB Maj Norman J Baumann

305 AREFS, Grissom Crew R-122R: P Capt Larry D Bottomley, CP Capt Nancy Lee G Peterson, IN Capt Michael A Delventhel, BO SSgt Larry A Page

931 AREFG, Grissom Crew: P Capt Douglas W Moser, CP Capt Melvin D Hattabaugh, IN Maj John P Kjeldsen, N Capt Duane R Schaefer, BO Sgt Randall L Rinehart

924 AREFS, Castle Crew R-110: P Capt Dave Shields, CP Lt Lance Kaplan, N Lt Tom Armstrong, BO Amn Keenan Patience

320 BMW, Mather Crew S-30: P Capt David A LaFave, CP Capt David S M Glasebrook, RN Maj Hugh P Holt, NN 1Lt Richard S Sorenson, EW 2Lt Lane S Bittick, AG SSgt Dan A Shimabriku

320 BMW, Mather Crew E-110: P Maj Robert S Smith, CP Capt Robert F Wray, CP 1Lt Randolph K Thomas, NN Maj Robert C Simpson, AG SSgt William F Shippey

93 AREFS, Castle Crew IT-53: IP Capt Jan Swickard, IN Capt John Bramblett, IBO TSgt Steve Vaughan

6 SW, Eielson Crew S-04: P Capt Robert G Gole, CP Capt Michael A Gordon, N-1 Maj Terry L Conkright, N-2 2Lt Jeffrey A Kland

6 SW, Eielson Crew S-12: Recon CC Capt Robert R Jensik, ATSO R-1 Capt Randy D Roberts, ATSO R-2 Capt Ronald S Lassonde, R-4 Capt William H Maxwell, MT Capt James R Martin, PT SSgt Steve S Wiseman, ET MSgt Malcolm E Baker

337 BMS, Dyess Crew R-22: P Capt John S Chilstrom, CP 1Lt Geoffrey K McDavid, RN Maj Michael B Manning, N 1Lt Patrick G Coon, EW 2Lt Keith C Asszony, AG SSgt Keith R Krebs

917 AREFS, Dyess Crew S-102: P Capt Richard P Packard, CP 1Lt Robert P Hendrickson, N Capt Robert W Barrier, BO SSgt Frank R Tesser

90 SMW, F E Warren Crew R-057X: MCCC 2Lt John R Bradshaw, DMCCC 2Lt Harold J Arata III

390 SMW, Davis-Monthan Crew R-111: MCCC 1 Lt Lawrence R Colletta Jr, DMCCC 2Lt Ricardo Mora-Figueroa, MSAT SSgt Jeffrey S Jones, MFT Sgt Kevin A Climis

44 SMW, Ellsworth Crew R-035: MCCC 1Lt Lee E Mifflin Jr, DMCCC 2Lt Curtis L Buckles

308 SMW, Little Rock Crew S-238: MCCC 1Lt Phillip R Mead, DMCCC 1Lt Rodney K Robison, MSAT TSgt Gerald W Baker, MFT TSgt Raymond A McDaniel

351 SMW, Whiteman Crew E-165: MCCC Capt Robert D Lewis, DMCCC 1Lt Christopher W Geib

The SAC Safety Screen is an honor roll of SAC's most professional crews. To gain listing on the Screen, crew members must be nominated by their unit commanders and meet high selection criteria of experience in their aircraft or missile system *IAW AFR 127-2/SS1*.

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FLARE

May the joys and blessings of the Christmas season
be with you throughout the New Year.
Best Wishes from
the Staff.